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Nicolas Guichon, Cathy Cohen

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Nicolas Guichon et Cathy Cohen
Université Lyon 2

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Keywords

noticing, metacognition, self-confrontation, L2 oral skills

Abstract

The central issue of the pilot study on which this article is based concerns the potential role of metacognition in the development of second language (L2) competence, specifically when L2 learners are confronted with their own videoed oral performance. An experiment was carried out at a French university with a group of first-year non-specialist undergraduate learners of English (N=12). The collected data for this research are comprised of (1) the filmed performance of learners carrying out an oral task in English, and (2) the filmed interview in French of the same participants engaged in metacognitive reflection upon samples of their own performance. The study thus endeavours to determine the potential of self-confrontation, represented here by retrospective interviews of learners based on their own video-recorded language performance, as a way to develop noticing skills in L2.

Développer les compétences de repérage des apprenants de L2 par la confrontation avec leur performance en production orale

Mots-clés

repérage, métacognition, auto-confrontation, compétence orale en L2

Résumé

La question centrale qui sous-tend cette étude pilote concerne le rôle potentiel joué par la métacognition dans le développement des compétences langagières, plus particulièrement quand des apprenants de L2 sont confrontés aux traces filmées de leur propre performance orale. Une expérimentation a été menée dans une université française avec un groupe de 12 étudiants de première année du secteur LANSAD. Les données recueillies comprennent (1) la performance filmée d'apprenants en train de mener à bien une tâche de production orale en anglais, et (2) l'entretien filmé des mêmes participants alors qu'ils sont engagés dans une réflexion métacognitive en français sur des échantillons de leur propre performance. Cette étude s'efforce donc de déterminer le potentiel de l'auto-confrontation, définie ici comme un entretien rétrospectif confrontant des apprenants à des traces filmées de leur propre performance langagière, pour développer des compétences de repérage en L2.

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1. Introduction

Despite having studied English for five to seven years before reaching university, the majority of French students struggle to find ways of improving their language competence and teachers are sometimes at a loss to offer directions. Many researchers in second language acquisition (SLA) (e.g. Wenden 1987; O'Malley & Chamot 1990) have underlined the importance of metacognitive skills that can be developed through tasks designed to help learners "become aware of, reflect on, and evaluate their own learning styles and strategies they use to learn" (R. Ellis, 2003: 32). This view is in line with the cognitive perspective that considers learners as individuals able to process information actively by selecting and organising relevant elements in order to build connections with prior knowledge (Mayer 1992). In the case of speaking a second language (L2), R. Ellis (2003) has suggested that L2 learners need metacognitive skills to help them notice a gap in their production, which may enable them to devise appropriate strategies to fill in that gap. Similarly, Schmidt's Noticing Hypothesis states that "SLA is largely driven by what learners pay attention to and notice in target language input and what they understand the significance of noticed input to be" (Schmidt 2001: 3-4).

From the viewpoint of second language instruction, two questions can be raised concerning the enhancement of noticing skills in language production: (1) how can L2 learners be provided with traces of their own oral production – ephemeral by nature – that allow them to engage in noticing operations? (2) under what conditions can the confrontation with these traces be useful for learners to develop their noticing skills?

To answer these two questions, a pilot study was carried out at a French university with a group of first-year non-specialist students ($N=12$). The collected data for this research are comprised of (1) the filmed performance of learners carrying out an oral task in English, and (2) the filmed interview of the same participants engaged in metacognitive reflection in French upon samples of their own performance. The second data set enabled us to study the attitudes and reactions of learners towards their own oral performance and the noticing strategies they used. The present pilot study endeavours to determine the potential of self-confrontation, represented here by retrospective interviews of learners based on their own video-recorded language

performance, as a way of developing noticing skills. The study allows pedagogical recommendations concerning possible ways of guiding noticing operations so that learners might be empowered to improve their oral performance thanks to self-confrontation.

In Section 2, we review the literature on metacognitive knowledge in language learning and then focus on the role played by noticing in the development of oral skills. This is followed, in Section 3, by the method that was used to elicit the data analysed in Section 4. Finally, in Section 5 we discuss the results and draw some implications for teaching.

2. Rationale for research

2.1. Metacognition, language learning and individual differences

Metacognitive knowledge and metacognitive strategies make up the two distinct components of the broader notion of metacognition (Brown *et al.* 1983). The concept of metacognitive knowledge was defined by Flavell as “the knowledge concerning one’s own cognitive processes and products or anything related to them” (1976: 232). This definition indicates first that subjects are capable of judging how they process information and, second, that they progressively develop some level of expertise about themselves as learning subjects. The knowledge thus gained would then be available for future situations in which similar cognitive processes occur. With reference to Flavell’s work, Wenden (1987) pointed out two characteristics of metacognitive knowledge: it can be commented upon and it is fallible. Because metacognitive knowledge is available to awareness, it can indeed be reported and described. However, what can be accessed by consciousness and put into words is not always supported by observable behaviours, nor are comments made by subjects perfectly accurate. There is therefore often a fundamental discrepancy between what a subject is able to say about his/her own cognitive activity and what he/she actually does when faced with a task (Leplat 1997).

In the field of L2 learning, metacognitive knowledge concerns both language use and language learning (Hauck 2005) and is reflected in “the general strategies through which learners manage, direct, regulate, guide their learning” (Wenden 1998: 519). Further, metacognitive knowledge intervenes not only before a task (planning) and after it (assessing), but also in the course of a task (monitoring). In the course of a task, metacognitive knowledge is what allows subjects to deploy strategies for “allocating, monitoring, coordinating, and adjusting [...] cognitive resources” (Mayer 2005: 36) that are severely limited. Thus, when confronted with a speaking task in an L2, non-expert subjects have to make timely decisions concerning the parameters (fluency, accuracy, complexity) they wish to attend to and thus allocate resources to carry out the task appropriately.

It has been suggested that metacognitive knowledge can also be gained when a subject reflects upon his/her performance after the completion of a task and tries to assess it (Willis 1996). Such self-assessment could foster the development of strategies that learners might then be able to use again in similar situations. Developing metacognitive skills might become essential at one point of the learning process when classroom practice has shown its limits for the development of skills, as might be the case for many French students after studying English for between five and seven years at secondary school. Swain (2000) has pointed out the fossilisation effect evidenced among learners who have reached a certain level of achievement in the development of their L2 but cannot find the means of going beyond that level.

Developing metacognitive skills could be a way of providing learners with crucial understanding not so much of the rules of language but rather of the processes they are engaged in when they use an L2. As Schmidt has remarked,

language learners who take a totally passive approach to learning, waiting patiently and depending on involuntary attentional processes to trigger automatic processing, are likely to be slow and unsuccessful learners (2001: 23).

Some authors contend that there is a strong correlation between the level of expertise in the L2 and the metacognitive skills possessed by a subject. This is what led Anderson to claim that “poor learners often do not evaluate the success or failure of their learning [and ...] may not recognize that they lack the ability to self-evaluate” (2008: 101) or Chamot to point out that “the less successful learners seem [...] to lack the metacognitive knowledge about task requirements needed to select appropriate strategies” (2001: 32). At the other end of the continuum, Hauck characterizes “good language learners [...] as being those who are aware of their perceptions, attitudes, and abilities and are knowledgeable about the learning process” (2005: 73). According to these authors, metacognitive skills would thus be a crucial factor for success in language learning. If these claims seem to be supported by evidence, we can nevertheless wonder if they hold true for those L2 learners who might be able to “routinely, reliably and fluently perform goal-directed activities as a result of practice with those activities” (Carlson 1997: 45) but whose level of awareness towards their own performance can be extremely low precisely because most processes have been automatized and require less attention.

Some studies have compared the performance of groups of L2 learners that had been taught metacognitive strategies with the performance of control groups who had received no prior strategic instruction (Oxford & Crookall 1989; O'Malley & Chamot 1990; Nakatani 2005) and have found that the former performed better than the latter. There seems to be a consensus that metacognitive skills provide language learners with the “opportunity to plan their learning, monitor their progress, or review their accomplishment” (O'Malley & Chamot 1990: 8) and are thus a means of empowering language learners by inciting them “to make conscious decisions about what they can do to improve their learning” (Anderson 2008: 99).

Having examined the role played by metacognition in the language learning process, we now investigate what role noticing operations play in facilitating the development of oral skills.

2.2. Developing speaking skills through self-confrontation: the role of noticing

One way of developing noticing skills is to provide students with a list of items they should attend to based on evaluation forms or self-assessment grids so as to better plan, monitor and assess their performance. O'Malley & Chamot, for example, presented a strategic approach to language learning that – among other recommendations – required learners to “rehears[e] the language needed for an oral or written task”, “check[...] one’s oral production while it is taking place” or “judg[e] how well one has accomplished a learning task” (1990: 198).

The main problem with such an approach beyond the vagueness of the proposed items is that it considers learners to already be experts on their own learning. A more promising approach, especially for speaking skills, consists of drawing learners’ attention to some problematic aspect of their interlanguage, classically defined by Selinker (1972) as “a mental grammar that a learner constructs at a specific stage in the learning process” (quoted in Ellis & Barkhuizen 2005: 54), and thus engaging them in noticing operations (Doughty & Long 2003). Many researchers contend that noticing is the first and crucial step to enable L2 learners to progressively expand and refine a repertoire of strategies (Wenden 1987).

Schmidt (2001: 5) distinguishes noticing from metalinguistic awareness in that noticing pertains to the focalisation of attention on exemplars – that is to say samples of learner language – and not on the formation of abstract rules. Thus, noticing is, according to N.C. Ellis (2002), what allows learners to “lay out the problem” and, consciously devise a solution to it. Noticing can occur in the course of a task when learners become aware of a ‘hole’ in their interlanguage (Swain 2000: 100), which prevents them from finding the precise word to convey their message and which slows down their production. Another related notion is that of “noticing-the-gap” which refers to operations leading L2 speakers to “become aware of the mismatch or gap between what they can produce and what they need to produce as well as what they produce and what proficient language speakers produce” (Schmidt 2001: 6).

Developing noticing skills can be approached by confronting learners with traces of their activity (e.g. recordings, written notes) and asking them to comment upon them retrospectively. By “making input out of their own output” (R. Ellis 2003: 112), learners can be incited to compare their performance with “what they would have been capable of saying if they had used their most advanced interlanguage knowledge” (*idem*). Video recordings can provide artefacts to mediate second language learning and might allow learners to “see for themselves what has gone wrong in the operating conditions under which they went wrong” (Johnson 1988: 93). Such video recordings have been used for language instruction (Murphey

2001; Klam 2007) and usually require the mediation of a teacher, though the role and the attitude of the latter have rarely been studied.

The pedagogical purposes of such confrontations can be summarised as follows:

- to heighten the awareness of learners towards their own performance by desynchronising the time of production and the time of analysis,
- to provide learners with opportunities of assessing samples of their own production,
- to provide the time and the means to carry out noticing operations.

The main hypothesis of the current study is that viewing themselves performing an oral task through the mediation of their self-image can heighten the L2 learners' capacity for noticing gaps in their oral performance. Hence, this research examined to what extent learners are able to demonstrate noticing skills with regard to their oral performance through self-confrontation, also called "stimulated recall" in SLA literature (see Gass & Mackey 2000), when teacher mediation is absent. It should be noted that before participating in the present pilot study, the students had never done this type of exercise before. In other words, they were given no training prior to the experiment and were given no guidelines as to the type of reactions they were expected to produce when commenting on their own performance. Therefore, our objective in this study was to gain a better understanding of how students with a range of abilities in English would perform in this situation in order to offer appropriate personalised training at a later stage to help draw the students' attention to problematic aspects of their interlanguage, encourage noticing and improve their metacognitive skills.

3. Methodology

3.1. Participants

Research participants were recruited from various undergraduate courses (law, anthropology and economics) at a French university. They were selected at random and, because the experiment required them to be present at two 40-minute sessions at a week's interval, we were able to recruit only 12 participants, which undeniably limits the scope but is sufficient for a pilot study. All 12 students were studying English as a non-specialist subject as part of their degree. Each student completed a self-administered questionnaire prior to the study in order to provide the researchers with background information about themselves and their contact with English both in formal and informal learning contexts. Participants were aged between 18 years and 5 months and 21 years and 9 months ($M=19$ years and 6 months; $SD=1$ year and 2 months), and two thirds were female. On average, they had studied English for seven or eight years. Four participants had either never been to an English-speaking country or had stayed less than one month. Five had stayed in an English-speaking country between one and six months, and three had spent at least half a year in an English-speaking country.

3.2. Data collection

The chosen methodology for this experiment is in keeping with Gass & Mackey's recommendations when it comes to using stimulated recall as a way of eliciting data: subjects are put in a situation where they have to use their L2 and are then asked to report on the output obtained as "the use of and access to memory structure is enhanced, if not guaranteed, by the prompt that aids in the recall of information"(2000: 13). The experiment was thus conducted in two stages.

During the first stage of the experiment, participants watched a two-minute BBC report dealing with the ban on smoking in bars and public places in the United Kingdom. To maintain the ecology of the situation of watching the news on television, subjects could not take notes or pause the video. They were told that they would have to summarize the main facts contained in the report and give their opinion on the subject. They were then interviewed in English by a native speaker about the content of the report and were filmed doing so. The interviewer offered little feedback and left each participant as much time as he/she desired to respond. The interactions lasted between three and seven minutes. Thus, the first data set, corpus 1 (C1), consists of the video recordings of the participants' oral performances.

The following week, the participants were each given ten minutes alone in a room to watch their own performance (C1) and encouraged to take notes so as to be able to comment upon it. The intention was to leave them time to remind themselves of their performance, get used to their own image and enrich the subsequent debriefing. Then, each participant met individually with a French researcher in another room, was given the remote control and instructed to stop the video whenever he/she wished to comment. They were invited to comment in French upon the selected episodes. The researcher sometimes prompted some participants to further their analyses but never incited them to comment on episodes they had not selected by themselves (see Gass & Mackey 2000: 65-68). The debriefing sessions between the 12 participants and the researcher were video-taped to keep a record of the learners' verbalisation for analysis and these constitute the second data set, Corpus 2 (C2).

3.3. Measures

With C1, our objective was to analyse the quality of the students' oral production in terms of fluency and accuracy. Having done so, we next investigated what students commented on when confronted with samples of their own oral production. We were then able to compare what they had noticed and commented on in relation to elements of fluency and accuracy in their oral production, compared to what we had identified in their output. This provided some indication as to the degree of their metacognitive skills. The fluency and accuracy measures were the same as those used in studies by Foster & Skehan (1996), Wendel (1997) and Yuan & Ellis (2003).

Fluency which “concerns the learner’s capacity to produce language in real time without undue pausing or hesitation” (Skehan 1996: 22) was measured by counting manually the number of syllables produced by each subject per minute. This measure of fluency employed in a number of other studies (e.g. Foster & Skehan 1996; Wendel 1997; Yuan & Ellis 2003) was selected as it takes both the quantity of speech and the length of pauses into consideration. Two measures were taken:

- 1) Measure 1 (number of syllables per minute): the number of syllables produced by students in each sequence, divided by the number of seconds taken, multiplied by 60. This measure was necessary in order to calculate measure 2.
- 2) Measure 2 (number of meaningful syllables per minute): as in measure 1 but excluding all syllables, words and phrases that were repeated, reformulated or replaced.

Accuracy which “concerns the extent to which the language produced conforms to target language norms” (Yuan & Ellis 2003: 2) was calculated manually according to the following two criteria:

- 1) Measure 3 (Error-free clauses): the percentage of clauses containing no syntactic, morphological or lexical errors. As for Yuan & Ellis (2003: 13), lexical errors are defined as “errors in lexical form or collocation”, e.g. “*I was looking a book”.
- 2) Measure 4 (Correct verb forms): the percentage of verbs used accurately in terms of tense, aspect, modality, and subject-verb agreement.

C2 was analysed according to the following four criteria:

- 1) Number of spontaneous reactions to their performance: this measure was calculated by counting up the number of times participants paused the recording during the debriefing to comment on their performance.
- 2) Moment chosen to pause the recording to comment. This could be either:
 - immediately after a specific error or incident; a specific error is an error which the student notices and comments on, while a specific incident refers to an incident that the student identifies in his/her discourse and chooses to comment on.
 - when the student arrives at a natural pause in his/her discourse in the recording before making a commentary.
- 3) Focus of commentary: for example phonology, vocabulary, syntax, or fluency.
- 4) Precision of commentary: we considered how precise students’ comments and analyses were when they paused the recording. These could be either:
 - a rather vague comment on a particular incident or error, for example a student who remarks that he/she had made a lot of grammatical errors but does not actually focus on any precise exemplar in his/her discourse;

- a more precise comment on a particular incident or error, backed up by a specific exemplar from their discourse, for example a student who identifies a precise error in his/her discourse and comments on it or maybe corrects it.

Having explained the measures used to analyse our two data sets, the results of the study are presented in the next section.

4. Results

We begin by analysing students' oral performance in C1. Then we examine C2 in order to investigate the relationship between oral production performance and metacognitive ability.

4.1. Evaluation of participants' oral performance

Table 1 presents an overview of the participants' performance by indicating the total length of their discourse in seconds and by presenting fluency and accuracy measures 1-4 as outlined in the previous section.

Table 1. Overview of participants' performance

STUDENT	1	2	3	4	5	6	7	8	9	10	11	12	M
Total length of discourse (secs.)	108	52	119	127	116	72	80	111	150	117	103	84	103.3
FLUENCY													
Syllable /minute (1)	100	137.3	127.5	138.9	101.3	161.6	97.5	127.5	100.8	97.4	188.1	175	129.4
Meaningful sylls/mn (2)	85	132.7	121.5	130.9	94.6	143.3	94.5	115.6	92.4	86.7	184.1	168.5	120.8
ACCURACY													
% error free clauses (3)	65.2	60	46.6	30.5	57.1	95.2	37.5	84.2	31.8	40.9	63.6	80.7	57.8
% correct verb forms (4)	89.6	78.5	78.7	65	92.3	100	61.1	93.7	77.5	75	87	88.2	82.2

The total length of students' discourse varies from 52 seconds to 150 seconds with a mean of 103.3 seconds. The main fluency measure (measure 2) – the number of meaningful syllables per minute – ranges from 85 for student 1 to 184 for student 11, with a mean of 120.8. Accuracy (measure 3), the percentage of error free clauses, ranges from 30.5 for student 4 to 95.2 for student 6, with a mean of 57.8. The second accuracy measure (measure 4), the percentage of correct verb forms, ranges from 61.1 for student 7 to 100 for student 6, with a mean of 82.2.

A closer look at the two measures for accuracy reveals that, as was to be expected, measure 3 is lower than measure 4 in all cases. An accuracy index (%) was created for each student by adding together measures 3 and 4 and dividing the total by 2. The resulting accuracy indices can be placed on a continuum with the students who made the most errors at the lower end and those who made the least at the top end, as shown in Table 2 below.

Table 2. Continuum of accuracy indices

Student	4	7	9	10	3	2	5	11	1	12	8	6
Accuracy indices *	47.8	49.3	54.7	58	62.7	69.2	74.7	75.3	77.4	84.5	89	97.6

* measure 3 + measure 4 ÷ 2 (%)

SPSS was used in this study to calculate Pearson product-moment correlations. Pearson correlations were calculated between fluency measure 2 and accuracy measures 3 and 4 but there were no significant correlations ($r=-.46$ between measures 2 and 3; $r=.27$ between measures 2 and 4). Thus speed of output is not related to accuracy of output. Student 6 is the most competent speaker with an accuracy index of 97.6 % but she is not the quickest with 143.3 meaningful syllables per minute. On the other hand, student 11 is a very fast talker with 184.1 meaningful syllables per minute, but her accuracy index of 75.3 % is much lower. Pearson correlations were calculated between the total length of discourse and the two accuracy measures. In each case the readings were not significant ($r=-.52$ and $r=-.15$ respectively). Indeed, student 6 who had the highest accuracy index (97.6 %) only spoke for 72 seconds. In comparison, student 9 spoke for 150 seconds but has a low accuracy index (54.7 %). Since the aim of this study is to investigate to what extent students are able to notice gaps in their interlanguage by identifying linguistic inaccuracies in their own production, it was decided to use the accuracy indices as the principal measure of oral competence in this study.

4.2. Participants' self-confrontation with their oral performance

In Table 3, different factors are presented to determine the degree of metacognitive skills.

Table 3. Summary of participants' noticing behaviours during self-confrontation

STUDENTS	1	2	3	4	5	6	7	8	9	10	11	12	Mean
No. of spontaneous reactions	4	5	4	4	3	9	3	6	4	4	2	4	4.3
MOMENT RECORDING PAUSED													
After specific error/incident	4	1	3	3	1	9	3	3	4	2	1	4	3.2
Before/after utterance	-	4	1	1	2	-	-	3	-	2	1	-	1.2
PRECISION OF COMMENTARY													
Vague comment	4	3	2	1	3	1	2	4	4	3	1	2	2.5
Precise comment	-	3	1	3	-	8	1	2	-	1	1	2	1.8

Number of spontaneous reactions

There is a variation in the number of times that students paused the recording during the debriefing to comment on their own performance, going from 2 for subject 11 to 9 for subject 6. A closer analysis of students' oral production shows that with the exception of students 6, 8 and 12 who had high indices of over 80 % for accuracy (see Table 2), the students were prone to make numerous grammatical and lexical inaccuracies as is shown in Table 4. Yet these errors were not noticed, or at least were not remarked on by the students. Interestingly, it was students 6 and 8 who had the highest accuracy indices who reacted spontaneously to their performance the most frequently (see Table 3).

Table 4. Overview of linguistic errors

STUDENTS	1	2	3	4	5	6	7	8	9	10	11	12	Σ
Grammar	6	10	13	25	8	1	11	3	25	11	13	5	131
Vocabulary	1	1	2	5	1	1	4	2	0	4	1	1	23
Pronunciation	18	18	24	28	17	3	13		32	30	12	5	200

Focus of students' commentary

Table 5 gives an overview of the focus of students' comments in C2 with regard to their performance in C1.

Table 5. Breakdown of comments on output

STUDENTS	1	2	3	4	5	6	7	8	9	10	11	12	Σ
Vocabulary	3	1	-	2	-	4	2	3	4	3	2	-	24
Grammar	-	2	1	2	1	3	1	1	-	-	-	1	12
Pronunciation	-	-	-	-	-	1	-	2	-	-	-	2	5
Lack of fluency	1	1	1	-	1	-	-	-	-	-	-	1	5
Lack of complex- ity	-	-	1	-	-	1	-	-	-	1	-	-	3
Lack of self- confidence	-	1	-	-	1	-	-	-	-	-	-	-	2
Comprehension problems	-	1	-	-	-	-	-	-	-	-	-	-	1

Vocabulary

Table 5 shows that 24 out of 52 (46 %) of the comments made by the students concerned vocabulary. Nineteen out of the 24 comments on vocabulary were related principally to a perceived lack of vocabulary. With the exception of subjects 3, 5 and 12, the other participants remarked at least once during the debriefing on this perceived lack of vocabulary which impacted on fluency. For example, student 1 remarked: “Right from the start there are a lot of hesitations, as I don’t have enough idiomatic expressions to express myself, not enough vocabulary to say what I really want to say¹”. Most comments are in the same vein and point to one of the limits of self-confrontation as a way of allowing students to carry out noticing operations. Indeed, in the case of grammar or pronunciation, lower level learners have at least the possibility of identifying some mistakes even if they are unable to correct them, whereas the main problem with vocabulary is that learners sense that it is lacking but do not know what to do about it. This leads to feelings of helplessness and frustration. This lack of vocabulary inhibits learners from expressing themselves. Analysis of most of the students’ oral production indicates that while there are few errors of lexical choice, there is a general lack of lexical variety.

Grammar

There were only 12 comments (23 %) relating to grammar in the students’ debriefings, yet the analysis of their oral production indicates that there were

¹ All comments made by students during the debriefing have been translated from French to English.

131 grammatical inaccuracies in C1, many of which were errors of conjugation in the present or past simple, for example. What is surprising is that this type of error will have been picked up on repeatedly by teachers over the years that the participants have been learning English. However the students make no reference to them. This suggests that they do not appear to be conscious of them. Indeed, students 1, 9, 10 and 11 failed to make any reference at all during the debriefing to their grammatical errors leading us to believe that they went unnoticed. Yet as is shown in Table 4 all these students made grammatical errors, ranging from 6 for student 1 to 25 for student 9.

Pronunciation

Pronunciation inaccuracies were those involving incorrect word stress and mispronunciation of phonemes. Rhythm, sentence stress and intonation were not taken into consideration here. While there were 200 pronunciation inaccuracies in C1, there were only five comments relating to pronunciation in the debriefings and these were made by the three students who had the highest accuracy indices (students 6, 8 and 12). The remaining students did not comment on any of their pronunciation inaccuracies although they had between 12 and 32 different inaccuracies in their short oral productions.

The remaining comments in C2 alluded to lack of fluency, complexity or self-confidence and general lack of understanding of the video on passive smoking. These four categories accounted for only 11 comments in total so will not be discussed further here.

Relationship between oral production performance and metacognitive skills

Having investigated the focus of students' comments concerning their linguistic performance, we now study evidence of their metacognitive skills.

Most students chose to pause the recording to comment on their performance immediately after a specific error or incident (see Table 3). This category accounted for 73 % of the total number of pauses. In contrast, there were only 14 pauses (27 %) made at natural breaks in their discourse for example at the end of an utterance.

When we consider the precision of students' comments and analyses, with the exception of student 6 who was a near-native speaker of English but also very self-critical, 57.7 % of the students' comments on their performance were rather vague, compared to 42.3 % of more precise comments which were backed up by specific exemplars from the students' discourse. Table 6 presents some typical examples of comments made by students. The comments are organised here according to whether they were vague or precise.

Table 6. Examples of comments made by participants

Typical examples of vague comments	<ul style="list-style-type: none"> - I did make a few mistakes though. I dunno, those –ing things. (Student 5) - Grammatical errors, choice of tenses, I was blocked, I didn't know which tense to use (Student 7).
Typical examples of more precise comments	<ul style="list-style-type: none"> - There are some grammar mistakes too. I said "I see" instead of saying "I saw" (Student 4). - "Bad throat", I don't think I pronounced it properly (Student 6). - That's a mistake I make all the time and I never know what's right or not "there is" or "there are". I don't even know if "there are" is correct or not (Student 6).

Interestingly, vague comments include some metalinguistic elements and labels (e.g. "*those –ing things*") which do not seem sufficient to help participants identify the gap in their output whereas precise comments are underpinned by precise exemplars which clearly indicate noticing operations.

The correlation between oral production performance and metacognitive skill was investigated by calculating the Pearson correlation between the number of times students paused the recording during the debriefing to comment on their own performance ("*number of spontaneous reactions*" shown in Table 3) and the accuracy indices (see Table 2). The correlation coefficient that was obtained ($r=.58$) was significant ($p<.05$). This result is encouraging particularly given the small number of participants in the study. It shows logically that the more accurate the students' oral production, the greater their metacognitive skills. In other words, higher level learners of English are more likely to be able to comment on and criticize their oral production performance when they are requested to do so after viewing their own performance. The reverse is probably also true i.e. the more "metacognitively" skilled a learner is, the better his/her oral production is (see Chamot 2001: 32). However, it would be necessary to repeat this study with a larger sample in order to validate the possible relationship between oral production performance and metalinguistic skills. It would also be necessary to broaden the criteria for proficiency beyond that of accuracy.

5. Discussion and pedagogical implications

The results of this pilot study indicate that the higher the level of accuracy reached by learners in their oral production, the greater their capacity for noticing. This is in keeping with Dörnyei & Skehan's (2003: 597) own research that has established that there are individual differences between learners in noticing abilities. When noticing operations do occur, we have seen that most comments made by the participants were rather vague and that only one third were backed up by exemplars. Still, identifying precise gaps in their interlanguage and doing so by selecting ap-

appropriate exemplars is not only a significant indicator of learners' metacognitive skills but also the first and crucial step to enable them to progressively expand and refine their repertoire of strategies (Wenden 1987).

Although most errors made by the participants pertain to grammar and pronunciation (see Table 4), it seems that, without guidance, learners are especially prone to comment on vocabulary or their lack thereof, and that most problems with pronunciation and grammar remain unnoticed, an aspect that deserves further study.

Self-confrontation may be deemed as an effective tool to engage learners in metacognitive processes and help them develop some level of expertise about themselves as learning subjects on a general level. As student 7 remarked on the potential of this method: "I think [self-confrontation] does help if you do it regularly, yes, really on a regular basis, because you see for yourself the way you really speak, you are not inside, you take a camera and you can see yourself".

Yet, this possibility of being confronted with oneself "in the same way as one would be confronted with someone else" (student 12) may in fact be of limited use because, as this study has made clear, in order to develop a strategic approach to L2 speaking, self-confrontation requires sharp noticing skills that most learners do not yet possess. Besides, learners, particularly lower level learners, require training in self-confrontation in order to exploit more fully the potential of this technique. Without such training, as this small-scale study shows, such learners often fail to notice gaps in their interlanguage.

The main finding of this study is that higher level learners seem to be able to gain some benefit from self-confrontation without teacher mediation because of their deeper and broader knowledge of the language. Why and how these learners have internalized this ability is one fundamental question requiring future investigation that is beyond the scope of the present study. However, this research has shown that for our sample all but high level learners find it very difficult to focus on a range of linguistic parameters either during the production stage or during the self-confrontation stage (see Tables 4 and 5). They are so focused on communicating their message in the production stage that they neglect linguistic accuracy (see Table 2). Yet without guidance in the debriefing stage, they appear to have very limited metacognitive ability and powers of noticing. Besides, as Yuan & Ellis remark about the limitation of human attentional capacity, "when learners attend to one aspect of a demanding task, they find it hard to spare attention for another" (2003: 22).

It might therefore be helpful to give lower level learners much more guidance when they are asked to evaluate their own performance. Indeed, learners could first be sensitised to different aspects of self-evaluation in class with the help of the teacher over a period of time before being asked to analyse their own performance.

In order to avoid overwhelming learners with too much information that they are unable to process because of their limited attentional capacity, the teacher could

select a limited number of samples from each learner's production so as to direct their attention "to whatever evidence is relevant for a particular learning domain" (Schmidt 2001: 30). Then they could be asked to identify the gaps in their output. Once they have understood on what criteria they should focus their analysis, they could then record themselves outside class and comment on their own performance with the help of an individualised self-evaluation grid constructed with the teacher's guidance. Providing them with an individualised self-evaluation grid in which they are asked to focus on different linguistic aspects and requiring them to keep track of their progress and refine the method might progressively enable them to notice and comment on a wider range of elements in their performance and be more self-critical. It seems indeed that the potential of self-confrontation could be heightened if the teacher drew the attention of the learners to specific aspects of their interlanguage and provided extrinsic feedback that is to say "feedback from an outside source that shows the learner what is wrong by modelling the correct form while they are attempting to communicate" (R. Ellis 2003: 147). Certainly, one of the limitations of this study comes from the fact that we have not investigated how teacher mediation can influence noticing operations. Our results suggest that external socially mediated guidance is necessary for higher psychological processes to occur as has been pointed out by researchers working in a sociocultural theoretical framework (Lantolf 2000). Future research will need to focus on the role of teachers and the type of mediation they can provide so that, when the learner is confronted with his/her own image, his/her reflection does not remain minimal, selective, and vague as was the case in this study for most of the lower level learners.

The approach presented in this paper is being implemented in an online learning platform which will give teachers the possibility of recording online sessions between distant learners and evaluating samples of learner output (Guichon *et al.* 2012). The aim is to provide them with delayed pedagogical feedback once the traces of their output have been mediated (i.e. selected, made noticeable and learnable) by the teacher. Learners will then have access to a few samples of their oral production performance chosen and commented on by the teachers, the mediation of their self-image being then enhanced by teacher mediation. Future research based on a longitudinal study should help determine whether the knowledge gained during this self-confrontation process helps learners make significant progress with their noticing skills.

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Nicolas Guichon est professeur des universités en sciences du langage, spécialisé en didactique des langues, à l'université Lyon 2. Il appartient au laboratoire Icar (Interactions, corpus, apprentissage, représentations). Ses recherches portent sur l'apprentissage des langues médiatisé par les technologies, sur les interactions en ligne et sur l'appropriation des Tice.
<nicolas.guichon@univ-lyon2.fr>

Cathy Cohen est maître de conférences d'anglais à l'Université Lyon 1. Elle a un PhD en linguistique de l'Université de Salford, Royaume-Uni. Ses recherches portent sur l'acquisition du bilinguisme en milieu non-didactique et sur l'apprentissage des langues en milieu didactique, en particulier l'apprentissage des langues médiatisé par les technologies.
<catherine.cohen@univ-lyon1.fr>